

Resource Goals - Fisheries

Code Number	Issue Statement Title	Goal Number	Goal
F01	Effects of Existing and Future Project Operations on Fish and Aquatic Resources		Effects of existing and future project operations (including power generation, water storage, ramping rates, and releases, pump-back, water levels, and water level fluctuations) during all water year types on the behavior (e.g., migration timing, microhabitat selection, vulnerability to predators), reproduction, survival and habitat of warm- and cold-water fish and other aquatic resources (e.g., macro invertebrates), which include project waters and tributaries within the project boundaries (Lake Oroville, Diversion Pool, Fish Barrier Pool, Forebay, Afterbay, Oroville Wildlife Area), and in project affected waters.
		1	Minimize and mitigate adverse project related effects on fish and aquatic resources.
		2	Cold- and warm-water fisheries sufficient to support desired recreational and commercial fisheries.
		3	Healthy native fish assemblage.
F02	Effects of Project Operations on Fish Diseases		Effects of existing and future project operations (e.g., pump-back operations, hatchery production, water temperature, etc.), and fisheries management activities (e.g., fish stocking) on the establishment, transmission, extent, and control of IHN, BKD, and other significant cold-water and warm-water fish diseases within Lake Oroville and lower river.
		1	Minimize or eliminate adverse project related effects on fish diseases within project waters, and project affected waters.
		2	Initiate efforts to minimize or eliminate adverse project related effects on IHN within project waters, and project affected waters prior to license application submittal
		3	Healthy freshwater and ocean fishery
F03	Effects of Project on Resident Fish Habitat		Project effects on resident fish species (e.g., trout and other salmonids and warm-water fish), habitat quantity and quality (including instream flow, sediment, woody debris, water temperature, etc.), and habitat for other aquatic species.
		1	Minimize or mitigate adverse project related effects on the habitat of resident fish.
		2	Provide cold- and warm-water fisheries sufficient to support desired recreational and commercial (bait, crayfish, etc.) fisheries.

Code Number	Issue Statement Title	Goal Number	Goal
	Effects of Project on Resident Fish Habitat	3	Enhance habitat for resident aquatic species.
		4	Minimize impact of stocked resident and introduced fish on wild, anadromous salmonids.
F04	Project effects on resident fish passage, including North Fork Feather River at Big Bend Dam, tributary streams, and project affected waters.		
	Project Effects on Resident Fish Passage	1	Minimize and mitigate adverse project related effects on the passage of resident fish.
		2	Enhance passage of resident fish.
F05	Effects of existing and proposed fisheries management plan(s) and activities on a balanced cold- and warm-water fishery (including stocking levels, hatchery management and production relative to in-river populations, habitat enhancement projects, predator and undesirable species control, and prevention of future introductions (e.g., Northern pike, striped bass, etc.), disease, tree stakes and tire removal, and harvest).		
	Effects of Fisheries Management Plans on a Balanced Fishery	1	Minimize and mitigate adverse project related effects on a balanced warm and cold water fishery.
		2	Provide a balanced warm and cold water fishery.
F06	Effects of existing and future project operations on sediment deposition, erosion, and recruitment through the system (including downstream sediment supply) and associated changes in water quality on the quantity and quality of aquatic habitats within project affected waters.		
	Sediment	1	Minimize and mitigate project impacts that harm aquatic habitats by altering geomorphic processes or degrading water quality.
		2	Enhance aquatic habitats through alteration of geomorphic processes.
F07	Project effects on interactions, including predation and competition, among lake and tributary fish populations (e.g., land-locked Chinook salmon, trout, bass, and other land-locked species) that affect species abundance, growth, reproduction, and survival.		
	Effects of Project on Lake and Tributary Fish Interactions	1	Minimize and mitigate adverse project effects on interactions between lake and tributary fish populations.

Code Number	Issue Statement Title	Goal Number	Goal
	Effects of Project on Lake and Tributary Fish Interactions	2	Enhance tributary and lake fisheries.
F08	Project effects on resource energy balance in terms of changes in biomass and nutrient dispersal due to loss of anadromous fish carcasses upstream of Lake Oroville (on fish and wildlife).		
	Anadromous Fish Nutrient Transport	1	Minimize and mitigate project related impacts on nutrient transport to tributaries of project waters.
F09	Hatchery effects (e.g., straying, genetic impacts, harvest rates, disease, temperature requirements, interactions with native fish such as predation and competition) on salmonid populations in the Feather River watershed and other Central Valley tributaries and on ecosystem restoration within project waters and project affected waters.		
	Hatchery Effects	1	Minimize and mitigate hatchery impacts on naturally produced salmonids.
		2	Provide populations of anadromous fish sufficient to support recreational and commercial fisheries.
		3	Continued mitigation for loss of anadromous fish spawning habitat in the Feather River
F10	Effect of existing and future project facilities and operations on anadromous fish habitat and populations (e.g., instream flows, water temperature, ramping rates, riparian habitat, large woody debris, predation, spawning gravels, stranding and desiccation, macro invertebrate prey base, upstream and downstream passage, rearing conditions).		
	Anadromous Fish Habitat	1	Minimize and mitigate adverse project impacts on habitat, genetic integrity and population size of anadromous fishes.
		2	Increase natural production of steelhead, spring-run and fall-run chinook salmon and other anadromous fish.
		3	Provide populations of anadromous fish sufficient to support desired recreational and commercial fisheries.
F11	Compliance of project operations with SWP Feather River Flow Constraints and adequacy of constraints to protect anadromous fish and other aquatic species in the low-flow section and in the river downstream of the Afterbay.		

Code Number	Issue Statement Title	Goal Number	Goal
	Compliance and Adequacy of Flow Constraints	1	Minimize and mitigate adverse project impacts on habitat, genetic integrity and population size of anadromous fishes.
		2	Provide populations of anadromous fish sufficient to support desired recreational and commercial fisheries.
F12	Evaluate existing and reasonably foreseeable future project effects in terms of cumulative impacts on regional fisheries, fish passage, and habitat quality and quantity within project-affected areas.		
	Cumulative Effects on Fisheries	1	Fisheries sufficient to support desired recreational and commercial fisheries.
		2	Minimize and mitigate adverse project effects on regional fisheries and habitat.
F13	Project effects on fish species listed for protection under the California and/or federal Endangered Species Acts (ESA), species of special concern, candidate species, proposed, and likely listed threatened and/or endangered fish species, and the habitat needed to support them.		
	Project Effect on Listed Fish Species	1	Minimize and mitigate adverse project impacts on habitat, genetic integrity and population size of listed species.
		2	Increase natural production of steelhead and spring-run chinook.
		3	Restore populations of listed fish species.
F14	Effects of existing and future project facilities and operations on the levels of recruitment of Feather River salmonids to the ocean population (e.g., sustained production of 20 percent of the commercial catch).		
	Feather River Salmon Production	1	Minimize and mitigate adverse project impacts on habitat, genetic integrity and population size of anadromous fishes.
		2	Provide populations of Chinook salmon sufficient to support desired recreational and commercial fisheries.

Code Number	Issue Statement Title	Goal	
		Number	Goal
F15	Evaluate the quantity and quality of existing upstream habitat conditions and potential sources of mortality for anadromous salmonid spawning, rearing, and juvenile emigration. If upstream habitat conditions and constraints (e.g., disease transmission) are considered to be suitable, evaluate the feasibility of alternative methods for providing passage of anadromous salmonids (e.g., fish ladder, fish elevator, bypass channel, trap-and-truck), upstream of Oroville Dam. Assess conflicts and constraints among species and life stages and their habitat, and evaluate the overall biological benefits to the species and upstream ecosystem (e.g., nutrient transfer). Upstream Habitat for Anadromous Fish	1	Minimize and mitigate adverse project-related effects on anadromous fish passage and ecological functions.
		2	Provide populations of anadromous fish sufficient to support desired fisheries and ecological functions.
		3	Provide for upstream passage of anadromous fish.
		4	Minimize the effects of non-endemic pathogens carried by anadromous fish transported to the upper watershed.
F16	Effects of existing and future project facilities and operations on the abundance of predators, their seasonal and geographic distribution, the impact of predation mortality on population dynamics of salmonids and other species, and alternatives for predator control and management (including prevention of introductions). Predators	1	Minimize adverse project impacts that increase predation pressure on salmonids and other species beyond natural or expected rates.

Resource Goals - Water Quality

Code Number	Issue Statement Title	Goal Number	Goal
W01	Effects of existing and future project operations and facilities on all designated beneficial uses of the water. The beneficial uses for the Lake Oroville and Feather River downstream as defined in the Basin Plan include municipal and domestic supply, agriculture, electrical power production, contact and non-contact recreation, warm-water and cold-water fish spawning, rearing and migration, cold and warm freshwater habitat, and wildlife habitat. Project Effects on Designated Beneficial Uses	1	Minimize and mitigate adverse project effects on water quality to protect all beneficial uses.
		2	Ensure project related activities maintain or improve water quality to protect beneficial uses and meet or exceed State and other applicable objectives, goals, and criteria.
W02	Effects of existing and future project operations on compliance with water quality objectives identified in the Regional Water Quality Control Board (RWQCB) Basin Plan. Specific compliance issues include bacteria, chemical constituents, dissolved oxygen, pH, oil and grease, pesticides, sediment, temperature, toxicity, and turbidity. Project Effects on Water Quality Objectives	1	Minimize and mitigate adverse project effects on water quality
		2	Ensure that water quality factors controllable by the project comply with Basin Plan objectives
W03	Effects of existing and future project operations on the physical, chemical, and biological components of water quality of the Feather River, affected tributaries, and downstream waters. The project has the potential for direct and indirect effects on aquatic ecosystem health, on recreational opportunity, and on domestic and agricultural water supply. Project Effects on Feather River and Tributaries	1	Minimize and mitigate adverse project effects on the physical, chemical, and biological integrity of water in Oroville Reservoir, its tributaries, and the Feather River.
		2	Ensure factors controllable by the project sustain the physical, chemical, and biological integrity of water in Oroville Reservoir, its tributaries, and the Feather River.
W04	Effects of existing and future project operations and facilities and its associated recreational facilities, activities, and uses on water quality. Proximity of project features and recreational facilities to shoreline and banks of water bodies offers potential for introduction of nutrients and bacterial contaminants to these waters. Effects of Project Operations and Facilities on Water Quality	1	Minimize and mitigate adverse effects of project operations, facilities, and recreation features on water quality.
		2	Enhance water quality to the extent possible with project operations to protect beneficial uses.
W05	Effects of existing and future water-based recreation on water quality of project waters. Concerns include MTBE, oils and greases, fuel spills, floating gas tanks, floating septic systems, floating restrooms, houseboat gray water tanks (e.g., nutrients), and pump out facilities. Effects of Recreation Features on Water Quality	1	Operate project related recreational facilities and activities to protect suitability of project waters for all beneficial uses

Code Number	Issue Statement Title	Goal Number	Goal
	Effects of Recreation Features on Water Quality	2	Adequate facilities and measures for safe handling of sanitary and commercial wastes from residential or commercial developments adjacent to project waters. (Insert Butte County resource goal related to MTBE)
W06	Effect of existing and future project facilities and operations on sediment deposition and potential impoundment of metals and toxins, including the potential presence and uptake of methyl mercury through the food chain.		
	Metals and Toxins Accumulation in Sediments and Aquatic Food Chain	1	Minimize project effects, to the extent possible, upon bioaccumulation in the aquatic food chain of metals and other toxic contaminants.
W07	Effect of existing and future project-related land management and watershed management activities (including waste disposal and pesticide use) on water quality, slope stability, erosion, sedimentation, channel stability, riparian habitat, fish habitat, and other beneficial uses.		
	Effects of Project Related Land Management Activities	1	Minimize and mitigate adverse project related land management activities on water quality, slope stability, erosion, sedimentation, channel stability, riparian habitat, fish habitat, and other beneficial uses.
		2	Protect riparian areas and water quality by limiting disturbance in streamside management zones according to ground slope and stability, stream class, channel stability, fishery, and other beneficial uses
		3	Avoid water quality degradation by using Best Management Practices during land management activities
		4	Reduce sedimentation and channel erosion by rehabilitating deteriorating watersheds
W08	Effect of existing and future project facilities and operations on natural hydrology (i.e., impaired and unimpaired hydrology).		
	Effects of Project on Natural Hydrology	1	Minimize and mitigate adverse project effects on natural hydrology
		2	Restore more natural hydrograph to the extent possible consistent with project purposes
W09	Effects of existing and future project facilities and operations on thermal stratification and other thermal processes on project waters, including availability of cold water for release in various water year types under current and future operational demands.		
	Thermal Regime of Project Waters	1	Minimize and mitigate adverse project effects on water temperatures needed to protect beneficial uses.
		2	Maintain suitable water temperatures in waters affected by the project to protect beneficial uses.
W10	Effects of existing and future water releases and operations on water temperatures in the Diversion Pool, Forebay, Afterbay, Oroville Wildlife Area, low-flow section of the river and downstream areas; at the hatchery; for agriculture; and the quality and availability of habitat for salmonids and other aquatic resources.		
	Project Effects on Water Temperatures Downstream from Oroville Dam	1	Minimize and mitigate adverse project effects on water temperatures needed to protect beneficial uses.
		2	Maintain suitable water temperatures in waters affected by the project to protect beneficial uses.

Code Number	Issue Statement Title	Goal Number	Goal
W11	Existing and future project compliance with temperature requirements of the SWP Feather River Flow Constraints and effectiveness of constraints for (a) protection of salmonids in the low-flow and high-flow sections of the Feather River; (b) hatchery operation; and (c) agricultural operations.		
	Project Effects on Temperature Compliance	1	Minimize and mitigate adverse project impacts on water temperatures
		2	Ensure that water temperatures downstream from Oroville Dam are suitable for all beneficial uses designated in the Basin Plan
		3	Minimize fish disease through thermal regulation downstream from Oroville Dam
W12	Effects of existing and future project facilities and operations on access to the cold-water pool during below normal (BN) water years and multiple BN water years under existing and future operational demands, and effectiveness of the Temperature Control Device in providing access.		
	Access to Cold-water Pool	1	Minimize and mitigate adverse project impacts on availability of cold water required for certain beneficial uses
		2	Ensure that water temperatures downstream from Oroville Dam are suitable for all beneficial uses during all hydrologic conditions.
W13	Effects of existing and future hatchery operations on water quality and water temperatures in the Feather River and Afterbay.		
	Hatchery Effects on Water Quality	1	Minimize effects of project related hatchery operations on water quality and temperature in project waters
		2	Ensure suitable water temperatures for salmonids in both the Feather River Hatchery and low flow section of the Feather River.
		3	Maintain suitable water quality for beneficial uses in the Feather River downstream from the hatchery.
W14	Effects of existing and future pump-back operations on water quality and water temperatures (in Lake Oroville, Diversion Pool, Forebay, Afterbay, and Oroville Wildlife Area), habitat suitability, and out migration for salmonids.		
	Effects of Pump-back Operations	1	Minimize and mitigate adverse project effects on water quality and temperature due to pump-back operations
		2	Maintain suitable water quality and temperatures for fish and other aquatic resources in project waters.
W15	Potential for non-project-related toxic spills (e.g., from railroad operations) and effects of toxic spills on project waters.		
	Toxic Spills	1	No FERC study plan is necessary for this issue. The FERC project has no effect on non-project related toxic spills from non-project related activities. DWR will work with other agencies that have direct responsibility for preparation of response plans for non-project related toxic spills. Project-related spills are addressed under existing operational plans.
W16	Cumulative effects of project operations and other past, present, and reasonably foreseeable future actions on water quality characteristics that are crucial to Oroville Facilities Relicensing resource issues.		

Code Number	Issue Statement Title	Goal	
		Goal Number	Goal
	Cumulative Effects on Water Quality	1	Minimize and mitigate adverse cumulative effects of project on water quality.
		2	Maintain water quality in the Feather and Sacramento rivers.
W17	Effects of reservoirs and Feather River downstream of Oroville Dam on groundwater quality and quantity (e.g. hyporheic zone interaction).		
	Project Effects on Groundwater including hyporheic zone	1	Minimize adverse project effects on groundwater movement, quality and level.
W18	Effect of existing and future project facilities and operations on natural protective processes (e.g., marshes).		
	Project Effects on Natural Protective Processes	1	Minimize and mitigate adverse project effects on natural protective processes
		2	Enhance natural processes for maintaining water quality

Resource Goals - Terrestrial

Code Number	Issue Statement Title	Goal Number	Goal
T01	Effects of project features, existing and future operations (including power generation, water storage and releases, ramping rates, pump-back, water levels and water level fluctuations), and maintenance on wildlife and wildlife habitat. Specific concerns include deer winter range, band-tailed pigeon winter habitat, designated emphasis and harvest species, wintering, brooding, and nesting waterfowl, and other wildlife use of project and project-affected waters. Effects of Project Features and Operation on Wildlife and Wildlife Habitat	1	Minimize and mitigate project-related impacts on wildlife and wildlife habitat
		2	Enhance wildlife and wildlife habitat within the FERC project boundary
T02	Project effects on federal and State listed, species of concern, candidate, proposed, and likely listed threatened, endangered, sensitive, and special interest plant and animal species, and the habitat needed to support them. Concerns include, but are not limited to, amphibians, bald eagle foraging habitat, winter roosts, and nesting territories. Project Effects on Special Status Plant and Animal Species	1	Minimize and mitigate adverse project effects on special status plant and animal species
		2	Promote the expansion of sensitive species
T03	Effects of existing and future project operations on floodplains and project water fluctuation zones, including soil stability, wildlife habitat and natural flood management functions, revegetation of native plant communities, and restoration opportunities (e.g., red willow planting). Project Effects on Floodplains and Water Fluctuation Zones	1	Minimize and mitigate adverse project-related effects on levee bound floodplain and soil stability, wildlife habitat, native plant communities and project water fluctuation.
		2	Enhance vegetation and wildlife habitat within the levee bound floodplain and project water fluctuation zone.
T04	Existing and future project effects on biodiversity (including plant species, seral stages, vegetation types and communities, and wildlife) and ecosystem health and stability. Project Effects on Biodiversity and Ecosystem Health and Stability	1	Minimize and mitigate adverse project-related effects on plant and wildlife species diversity
		2	Maintain viable populations of all native species with emphasis on sensitive species
		3	Maintain viable populations of desirable non-native animal species
		4	Minimize and mitigate adverse project-related effects on biodiversity and ecosystem health
		5	Enhance biodiversity and ecosystem health and stability
T05	Project effects on riparian resources and protection and management of riparian habitat and wetlands (including vernal pools and brood ponds). Project Effects on Riparian Resources and Wetlands	1	Minimize and mitigate adverse project-related effects on riparian and wetland ecosystems along the Feather River.

Code Number	Issue Statement Title	Goal Number	Goal
	Project Effects on Riparian Resources and Wetlands	2	Enhance riparian and wetland habitats including floodplain and upland wetlands, vernal pools, and brood ponds within the project boundary.
T06	Interagency management coordination; adequacy of management plans and activities and funding for wildlife management.		
	Interagency Wildlife Management Coordination	1	Development of coordinated interagency wildlife management plan(s) for lands within the project boundary which promote wildlife species diversity, population of sensitive wildlife species, and recreationally/commercially important species.
T07	Effects of the project on the introduction, distribution and management of noxious terrestrial and aquatic weeds.		
	Effects on Noxious Terrestrial and Aquatic Plant Species	1	Minimize and mitigate project-related effects on the dispersal of noxious weeds
		2	Incorporate project lands in county-wide mapping process of noxious weeds
		3	Control noxious weeds of greatest ecological and agricultural concern
		4	Remove undesirable non-native plant species around lake, river, forebay and afterbay areas especially star thistle, ailanthus, and other invasive plant species
		5	Restore disturbed sites with native plant communities •Minimize •Minimize
		6	Minimize and mitigate project-related effects on dispersal of noxious aquatic weeds into downstream irrigation canals
T08	Effects of the project on the introduction, distribution and management of undesirable non-native wildlife species.		
	Project Effects on Undesirable Non-native Wildlife	1	Minimize and mitigate project-related effects on native wildlife by undesirable non-native wildlife species
T09	Effects of existing and future project-related recreation facilities, activities (including authorized and unauthorized access and use) and management on nesting and wintering Pacific Flyway waterfowl, other wildlife, and plant communities.		
	Recreation and Wildlife	1	Minimize and mitigate project-related recreation impacts on wildlife and plant communities
		2	Enhance nesting and wintering Pacific Flyway waterfowl and plant communities
T10	Effects of existing and future project features, operations and maintenance on upland habitat types, including revegetation and restoration efforts.		
	Project Effects on Upland Habitat, Revegetation, and Restoration	1	Minimize and mitigate project-related effects on upland habitat
		2	Enhance upland habitat on project lands

Code Number	Issue Statement Title	Goal Number	Goal
T11	Effects of fire prevention/fuel load control on natural communities.		
	Fire Prevention/Fuel Load Control	1	Identify fire prevention management practices to help reduce damage from fires to natural and man-made resources and enhance habitat diversity.
		2	Minimize negative impacts to wildlife habitat through fire and fuel load management practices to enhance public safety (sensitive to wildlife habitat)

Resource Goals - Geomorphic Processes

Code Number	Issue Statement Title	Goal Number	Goal
G01	Effects of existing and future project operations on natural geomorphic processes. These include physical attributes and functions (e.g., channel morphology, channel stability, sediment transport and deposition, spawning gravel and large woody debris recruitment, habitat diversity) and subsequent effects on biological resources (e.g., aquatic macro- invertebrates, riparian vegetation) in the low-flow section and in the Feather River downstream of Thermalito Afterbay under wet and dry year criteria.		
	Effects of Project Operations on Geomorphic Processes	1	Minimize and mitigate adverse project impacts to the extent feasible on natural geomorphic processes in the downstream reaches.
		2	Maintain and enhance or increase aquatic and terrestrial habitat.
		3	Minimize project impacts on the erosion of downstream properties and resources of statewide significance (as defined in CEQA).
G02	Project effects on channel capacity and potential need for more storage/flood protection.		
	Project Effects on Channel Capacity and Storage for Flood Protection	1	Maintain channel design capacity and reduce the risk of flooding
		2	Maintain and enhance channel and floodway capacity.
		3	Maintain and enhance flood routing characteristics to maintain the current level of risk or reduce the risk of flooding.
		4	Operate the project in a manner consistent with the floodflow releases required in the Corps manual.
G03	The need to coordinate long-range watershed planning activities with local, State, and federal agencies and private landowners.		
	Coordinating Long-Range Watershed planning activities with Local, State, Federal Agencies and Local Landowners	1	In reviewing this issue statement, the task force agreed that no study was needed to address coordination of long-range watershed planning activities. The existing Upper Feather River Coordination Program, of which DWR is a participant, currently considers watershed issues. The requirement for DWR to coordinate with agencies and landowners on activities outside the project boundary was considered by the task force members to be outside the scope of FERC jurisdiction. We note, however, that through the Federal Power Act, the Federal Energy Regulatory Commission (FERC) is required to consider the extent to which the Oroville Facilities is consistent with a comprehensive plan for improving, developing, or conserving a waterway or waterways affected by the project. Accordingly, as no dedicated study is needed and as the issue is not within FERC's jurisdiction, the Task Force recommends that this issue be considered as a potential settlement issue to be proposed by settlement participants during settlement negotiations. (Wayne will work with Steve to adjust language) Determine place or bin to hold this until needed.

Code Number	Issue Statement Title	Goal Number	Goal
G04	Project effects on sediment accumulation upstream of the dam.		
	Project Effects on Sediment Movement and Deposition Upstream of Oroville Dam	1	Minimize and mitigate adverse project impacts of sediment deposition in Lake Oroville on fisheries resources and water quality.
		2	Reduce the rate and amount of sediment depositing in Lake Oroville
G05	Effect of the project including discharge (magnitude, frequency, and timing) and ramping rates and the altered stream hydrology on substrate scour, mobilization of sediments, turbidity levels, and riparian vegetation in the low flow reach and downstream of the Afterbay.		
	Effect of the Project Related Hydrologic Changes on Stream Geomorphology	1	Minimize and mitigate adverse project impacts resulting from altered flow regimes.
		2	Return as far as is practicable to natural sedimentation and scour regime in the river below the dam.